

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

1/24

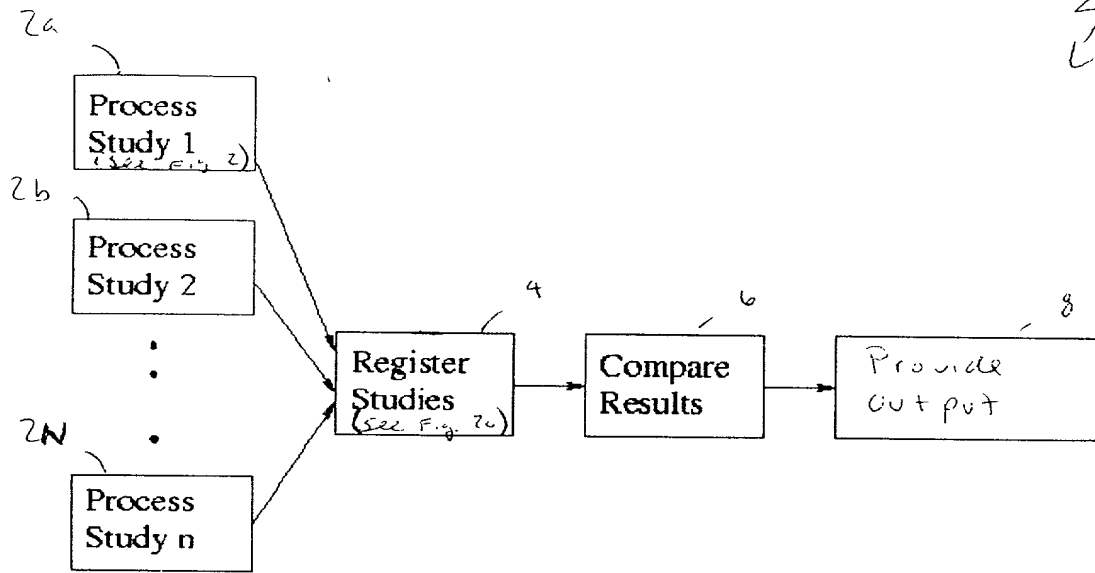
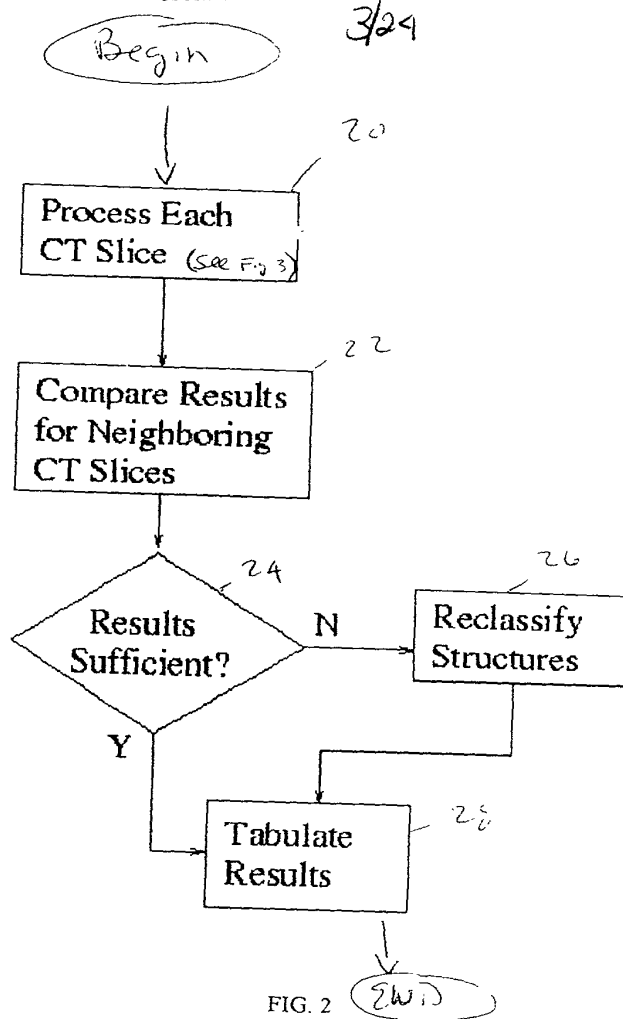


FIG. 1

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS



METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

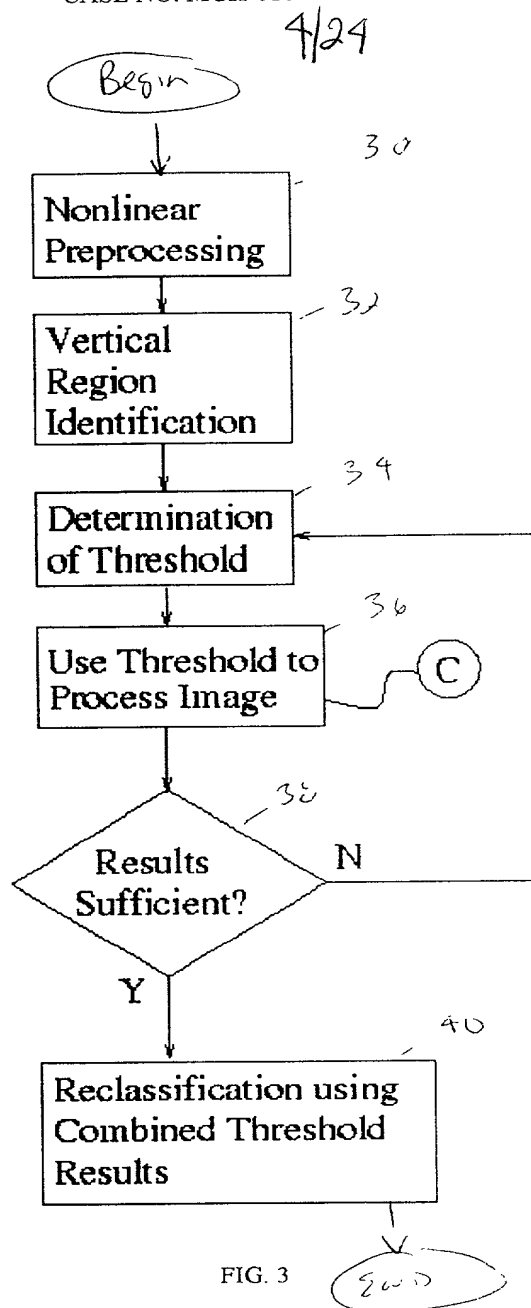


FIG. 3

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

0

5/29

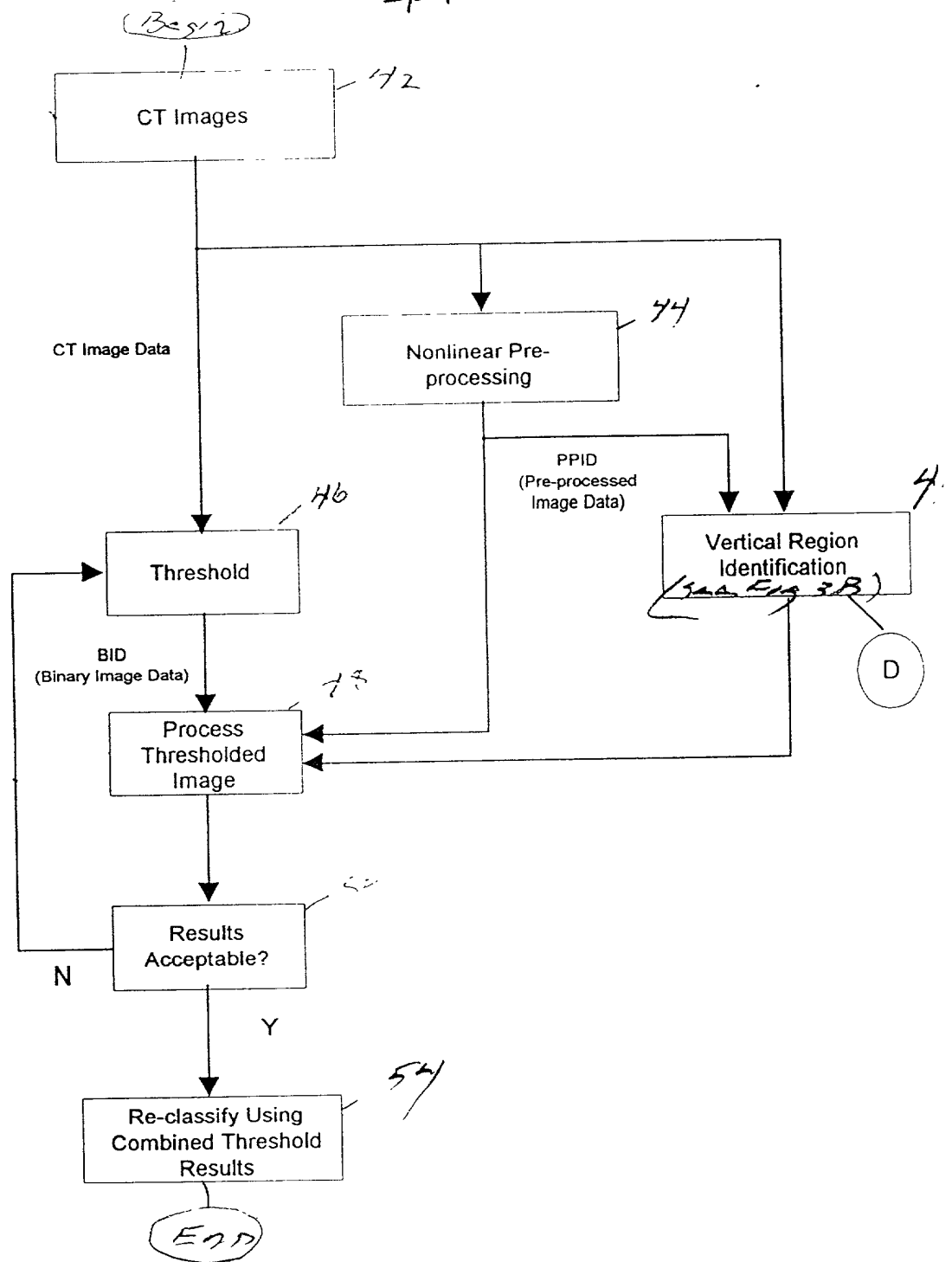


FIG. 3A

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

6/24

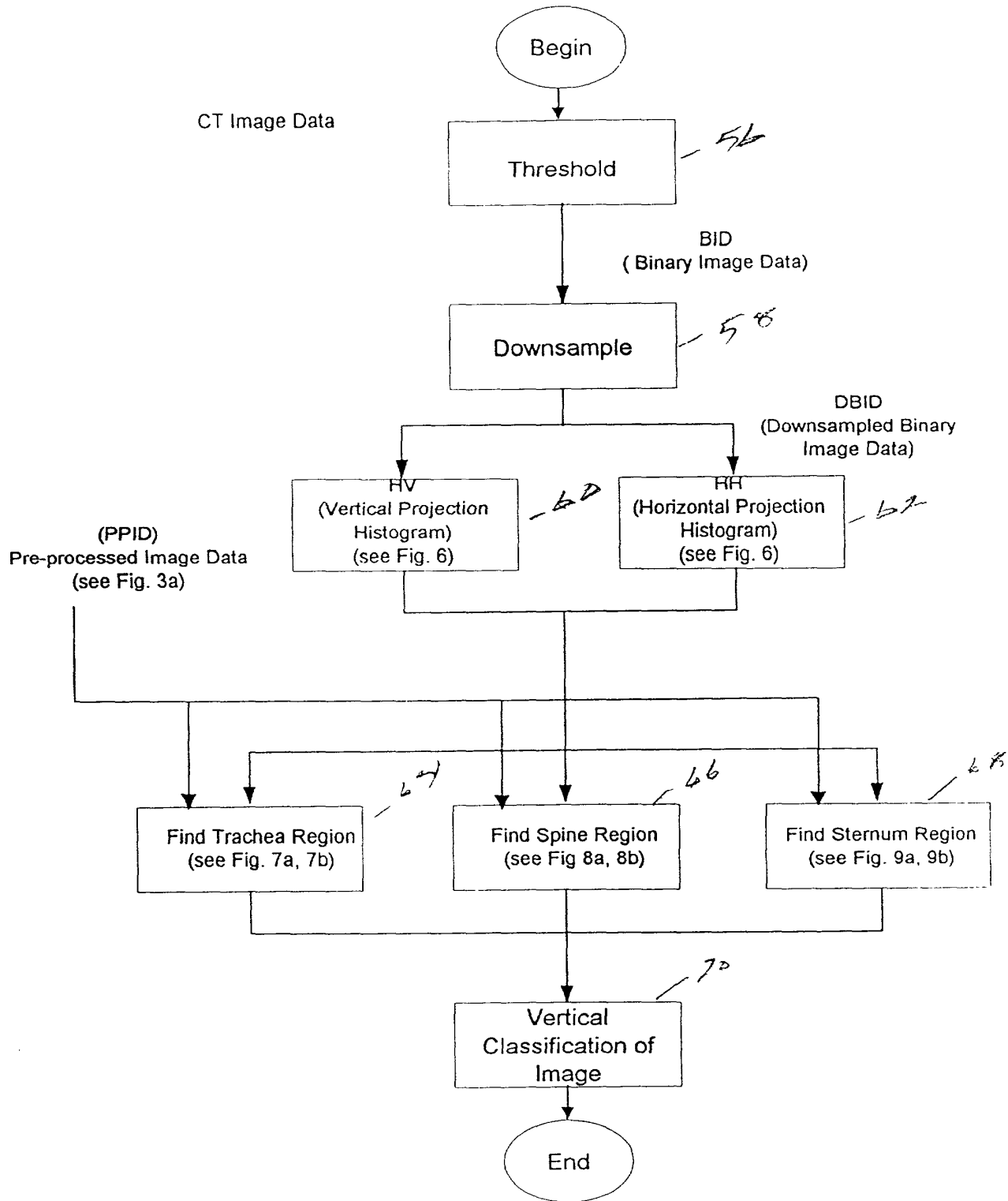


FIG 3B

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

7/24

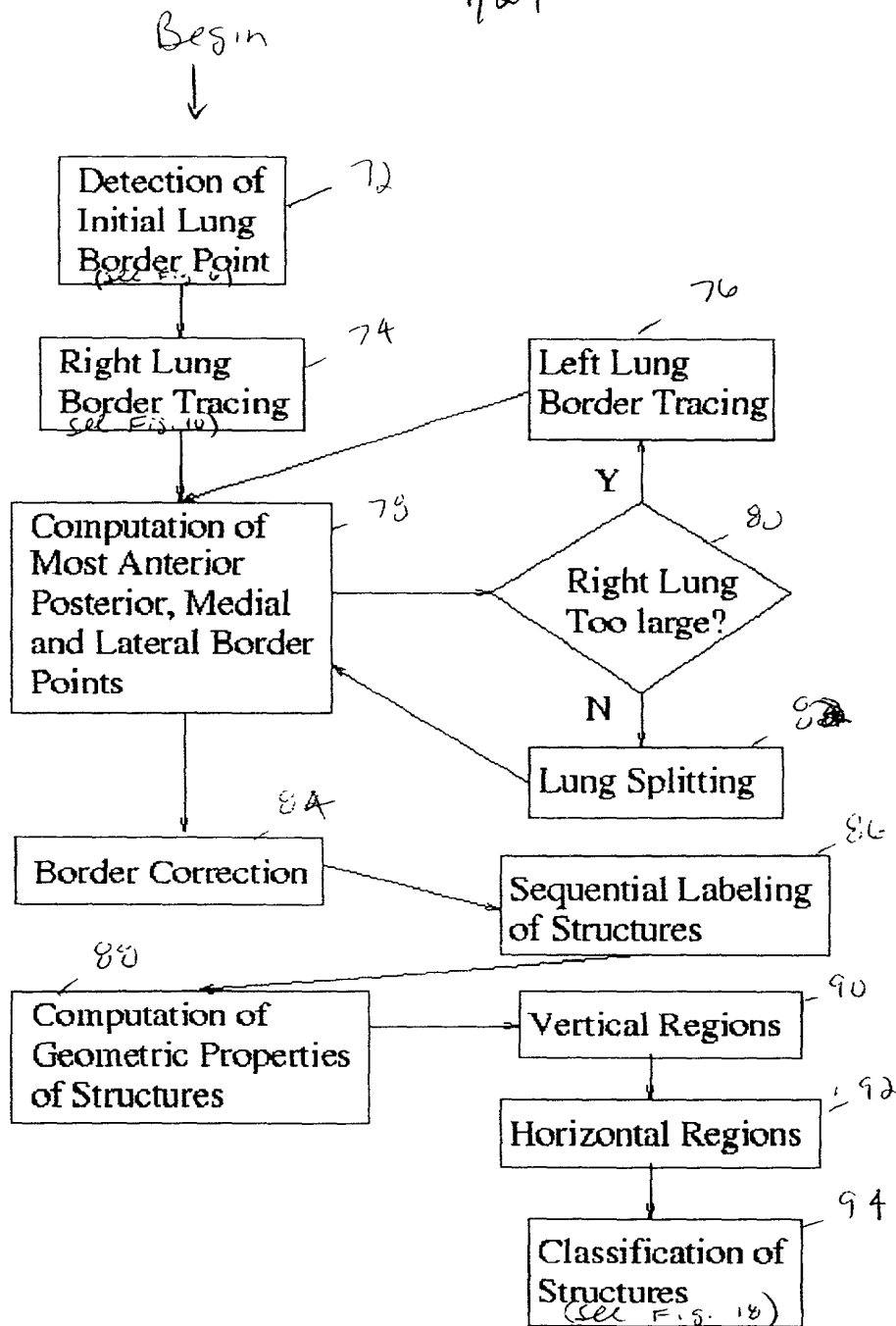
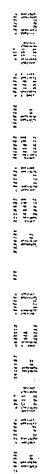


FIG 4

Margrit Betke, et al
CASE NO. MGH-010AUS
8/29

$\text{Cp}^* \text{RhCl} \rightarrow \text{Cp}^* \text{Rh}^+ \text{Cl}^-$
 $\text{Cp}^* \text{Rh}^+ \text{Cl}^- \rightarrow \text{Cp}^* \text{Rh}^+ \text{Cl}^-$
 $\text{Cp}^* \text{Rh}^+ \text{Cl}^- \rightarrow \text{Cp}^* \text{Rh}^+ \text{Cl}^-$
 $\text{Cp}^* \text{Rh}^+ \text{Cl}^- \rightarrow \text{Cp}^* \text{Rh}^+ \text{Cl}^-$
 $\text{Cp}^* \text{Rh}^+ \text{Cl}^- \rightarrow \text{Cp}^* \text{Rh}^+ \text{Cl}^-$



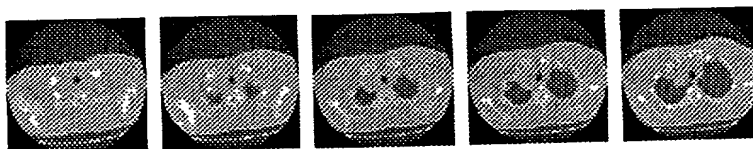
10
11

96

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

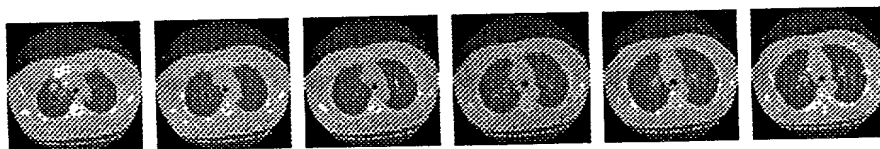
Margrit Betke, et al
CASE NO. MGH-010AUS

9/24



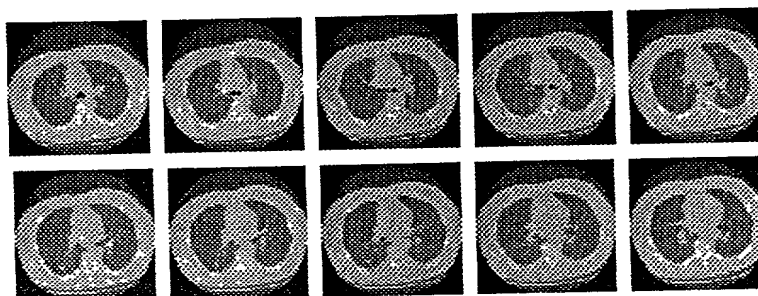
100

FIG. 5a



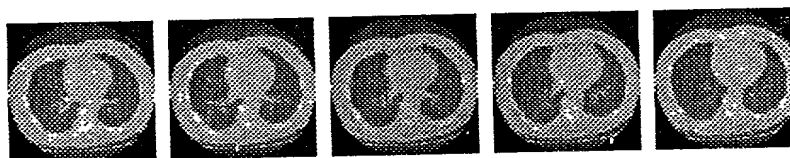
102

FIG. 5b



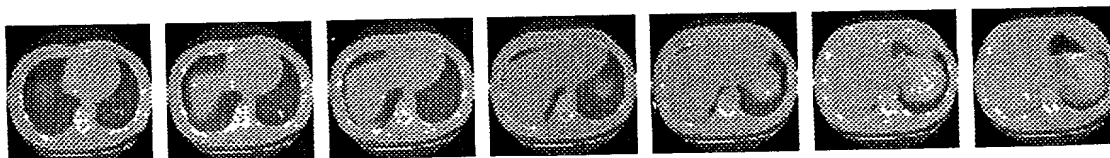
104

FIG. 5c



106

FIG. 5d



108

FIG. 5e

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

10/24

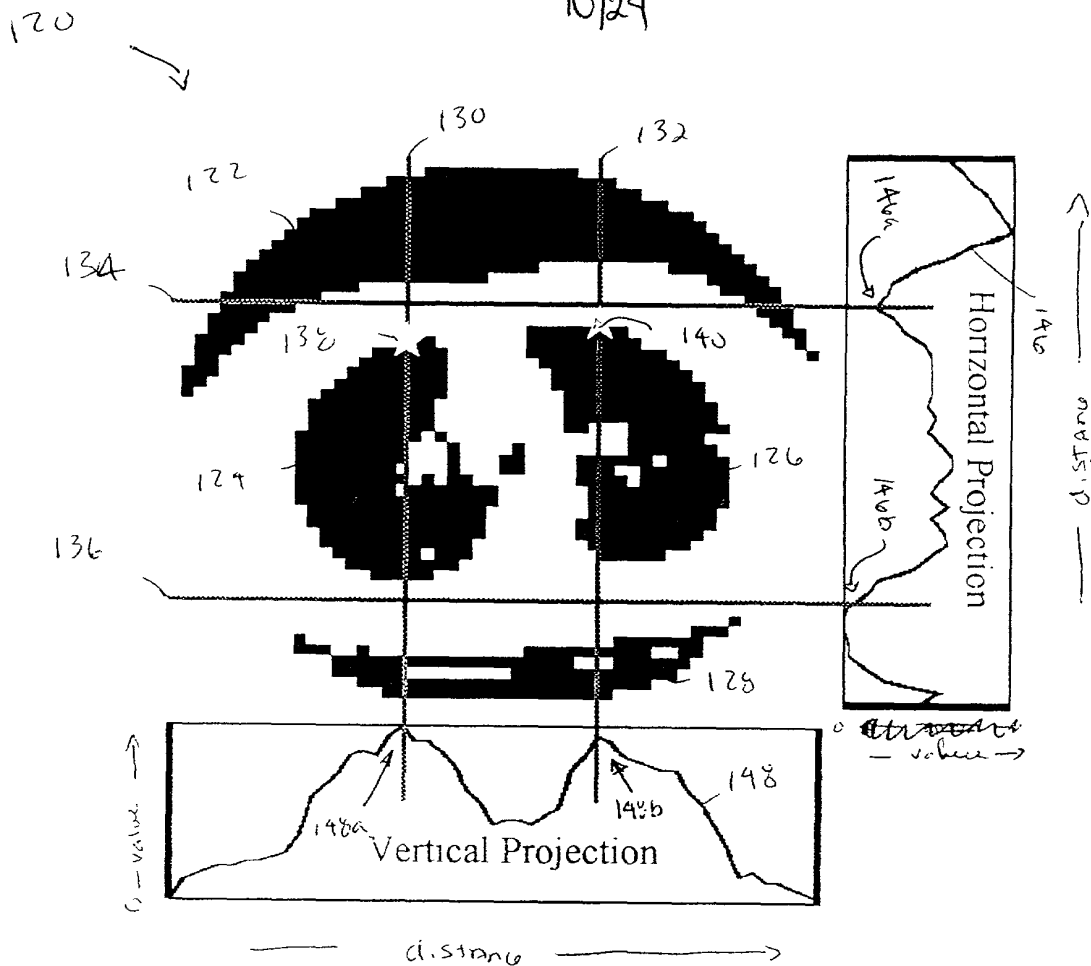


FIG. 6

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

11/24

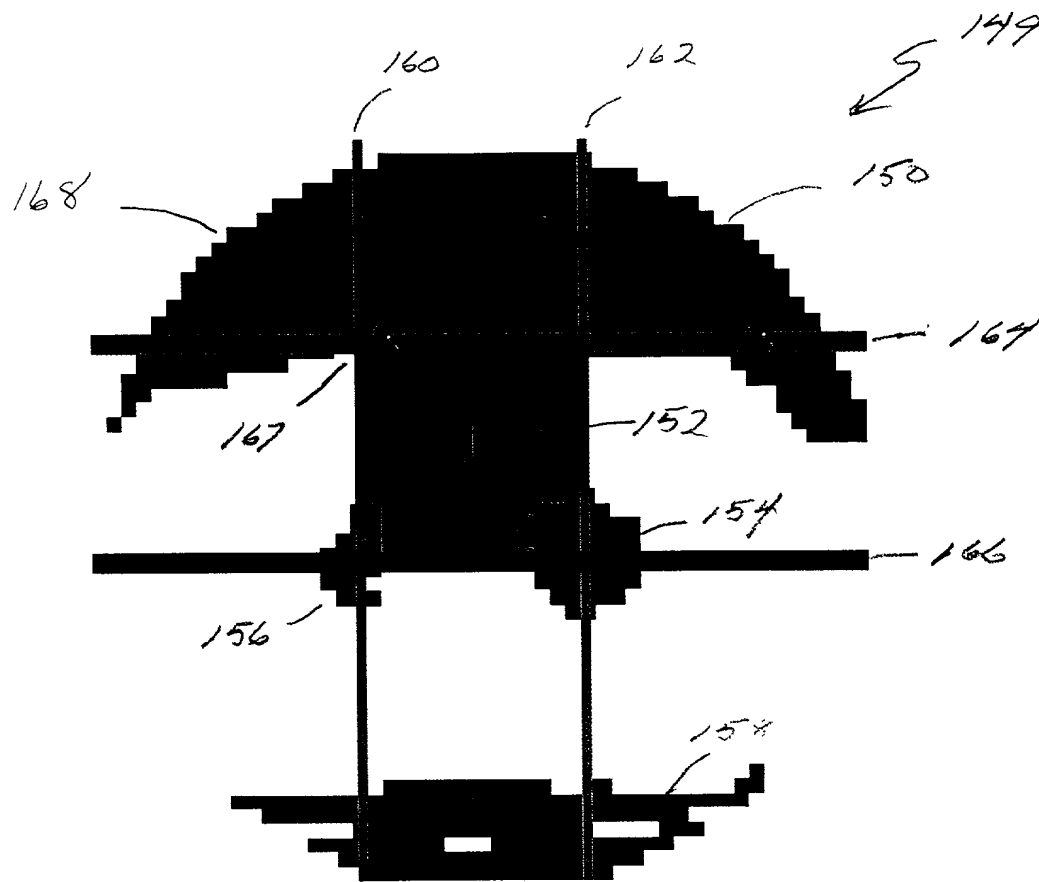


FIG. 7a

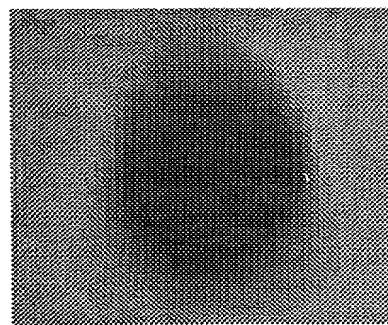


FIG. 7b

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

12/29

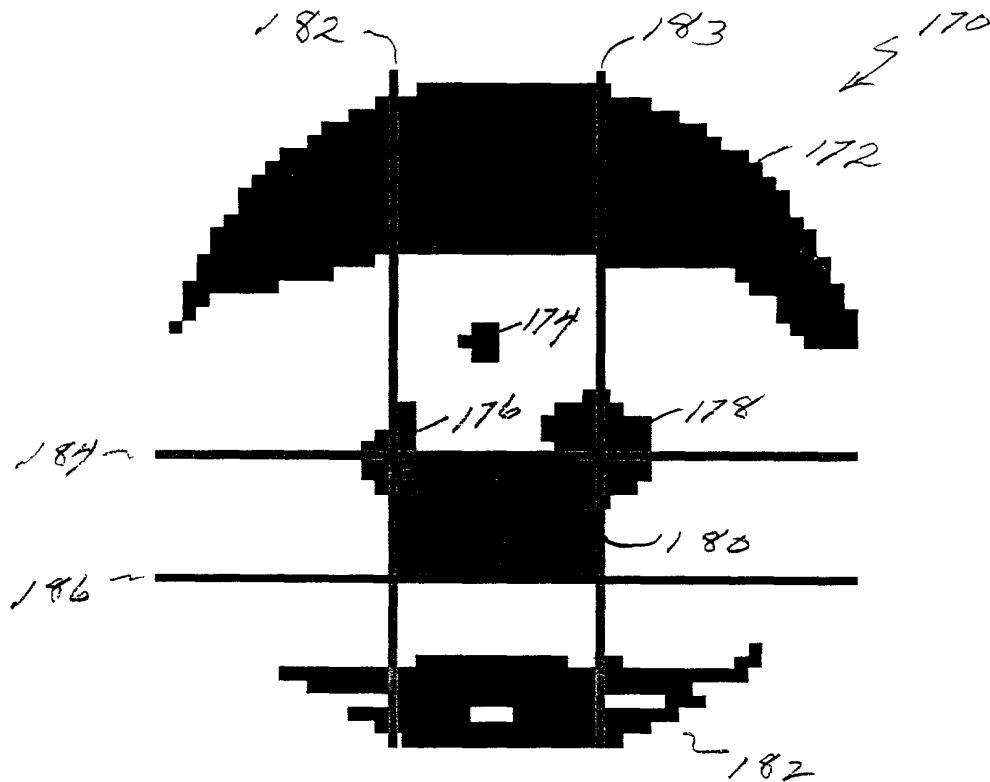


FIG. 8a

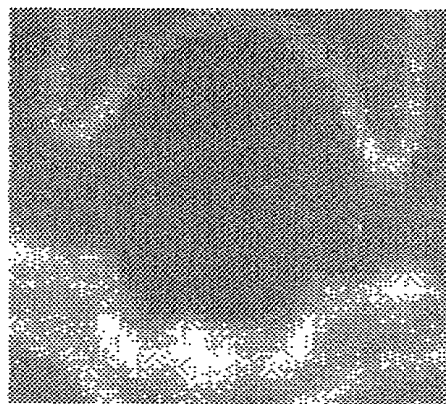


FIG. 8b

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

13/24

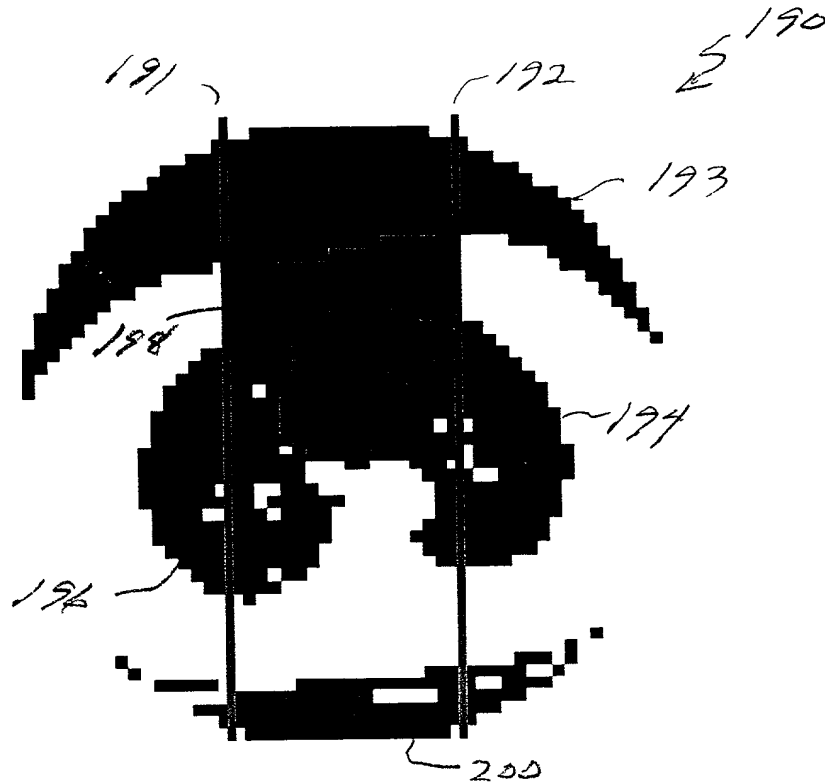


FIG. 9a

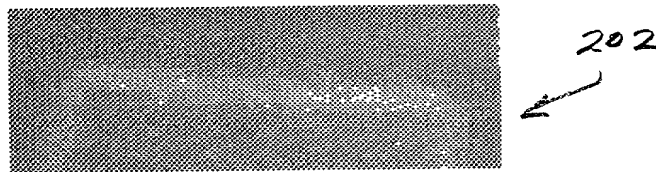


FIG. 9b

METHOD AND SYSTEM FOR THE DETECTION, COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

14/24

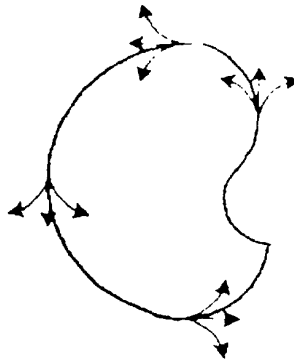


FIG 10a

210

210

211

210e	210d	210c	210b	210a
210p	210o	210f	210l	210k
210r	210q	210g	210n	210m
210t	210s	210h	210i	210j

= lung outline

= value 0
air

= value 1

212

211

210e	210d	210c	210b	210a
210p	210o	210f	210l	210k
210r	210q	210g	210n	210m
210t	210s	210h	210i	210j

FIGURE 10B

220a

220c

220b

220a

220b

220a

220b

220a

220b

220b 219b

220c

220a

220b

220c

220a

220b

220c

220a

220b

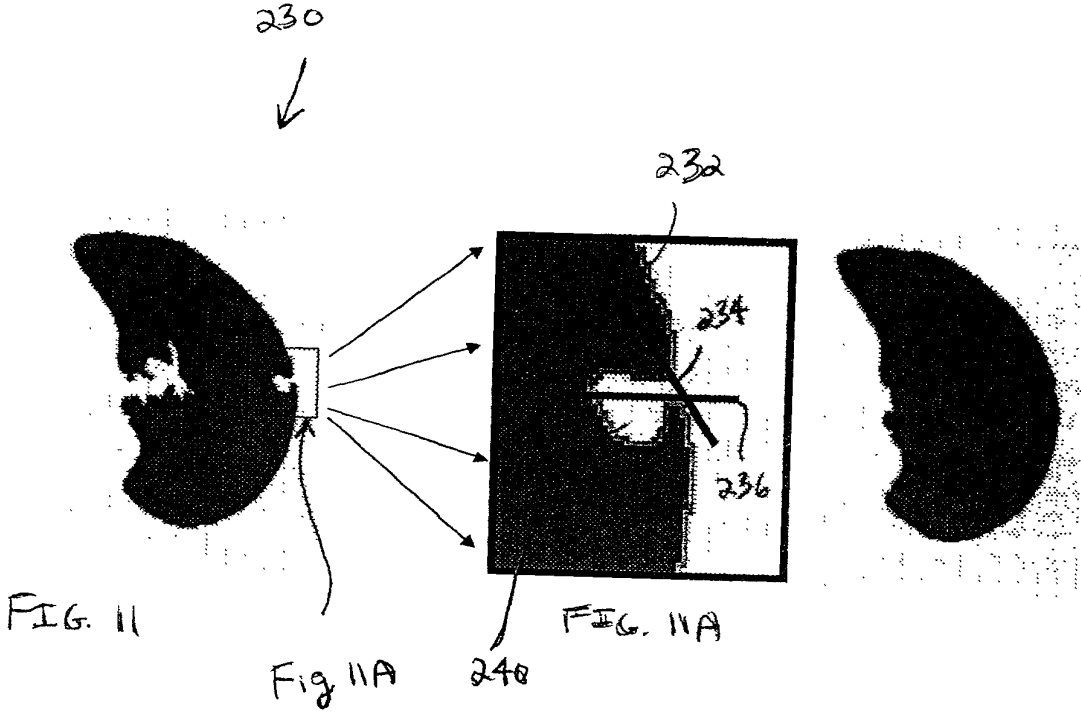
220c

FIG 10c

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

15/24



METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al.
CASE NO. MGH-010AUS

16/24

252
↙

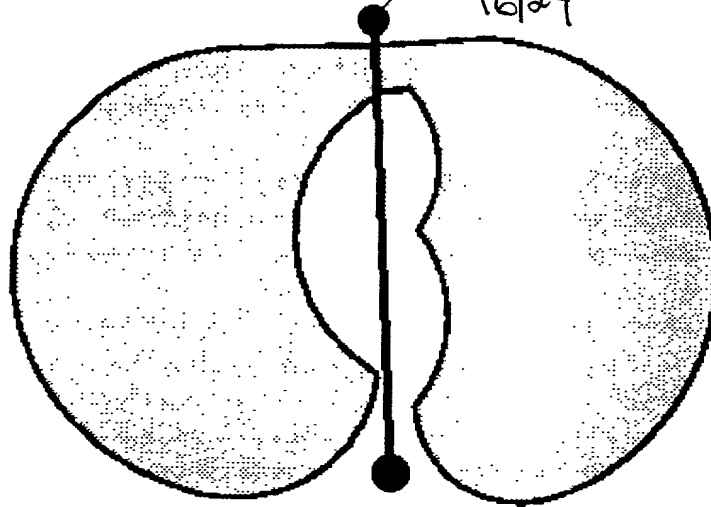


FIG. 12a

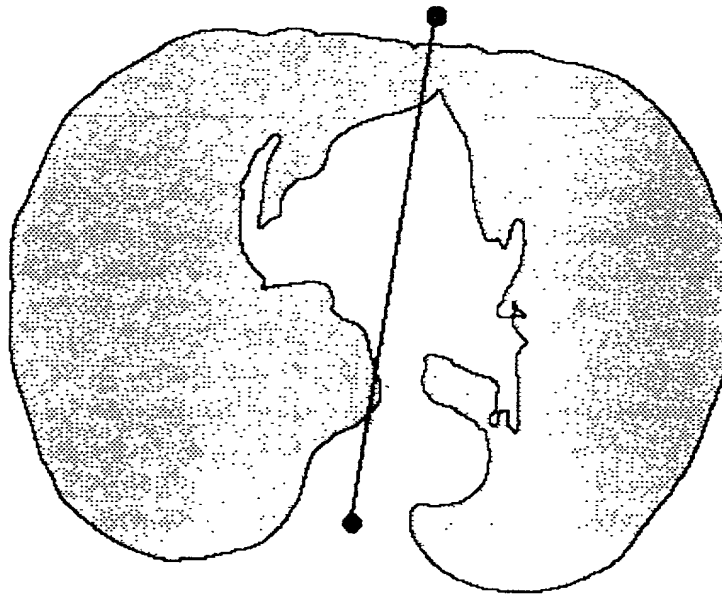


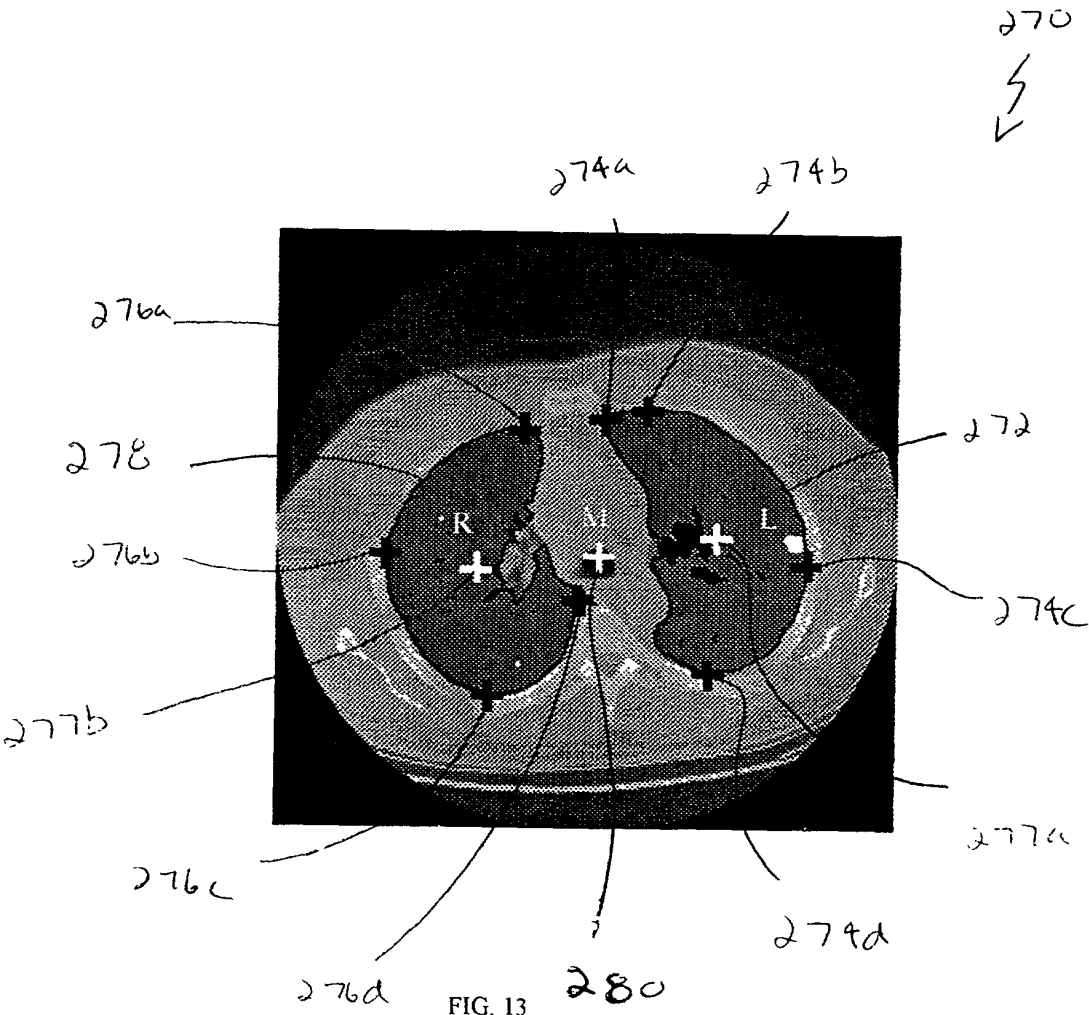
FIG. 12b

1004-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

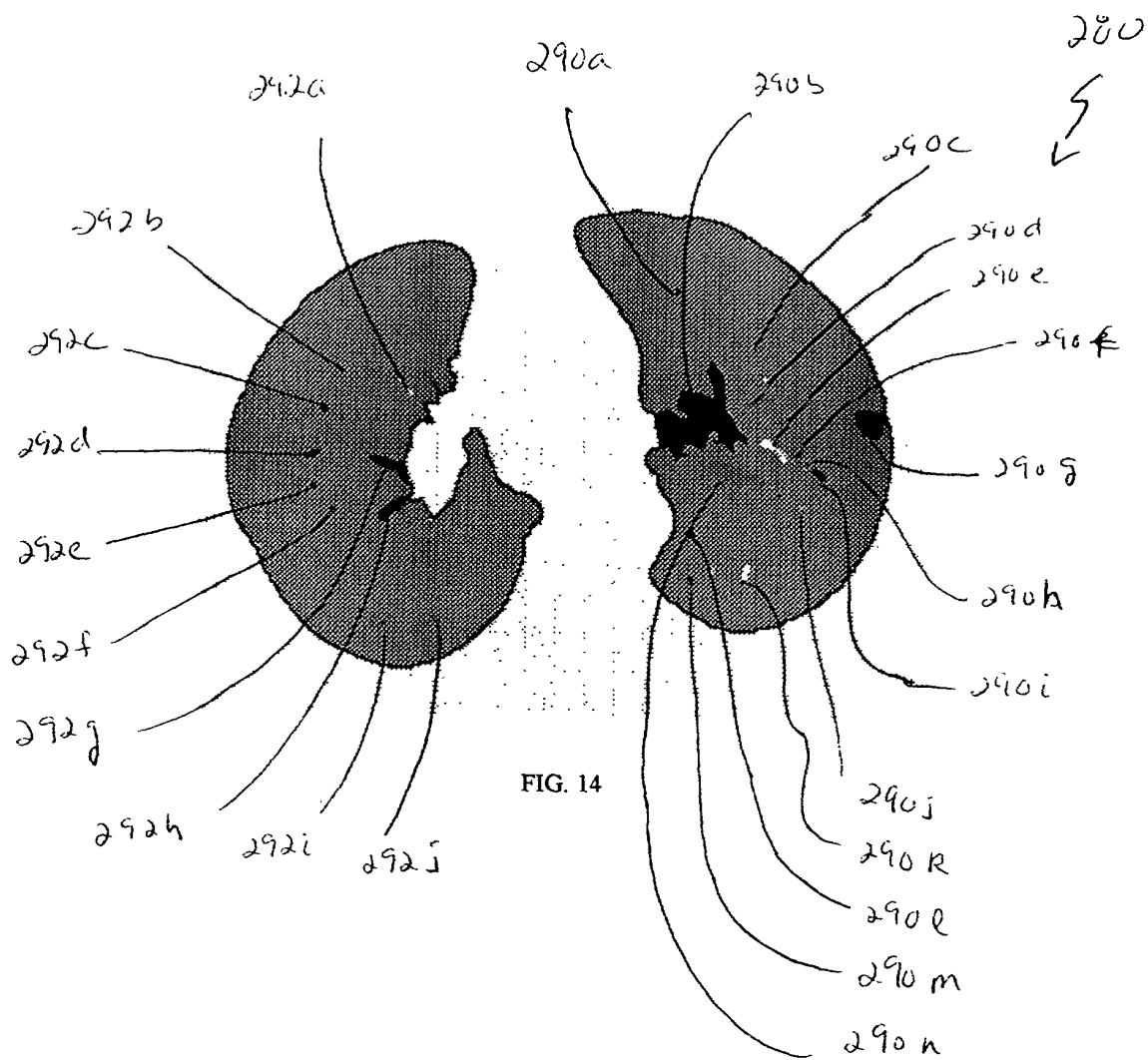
17/29



METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

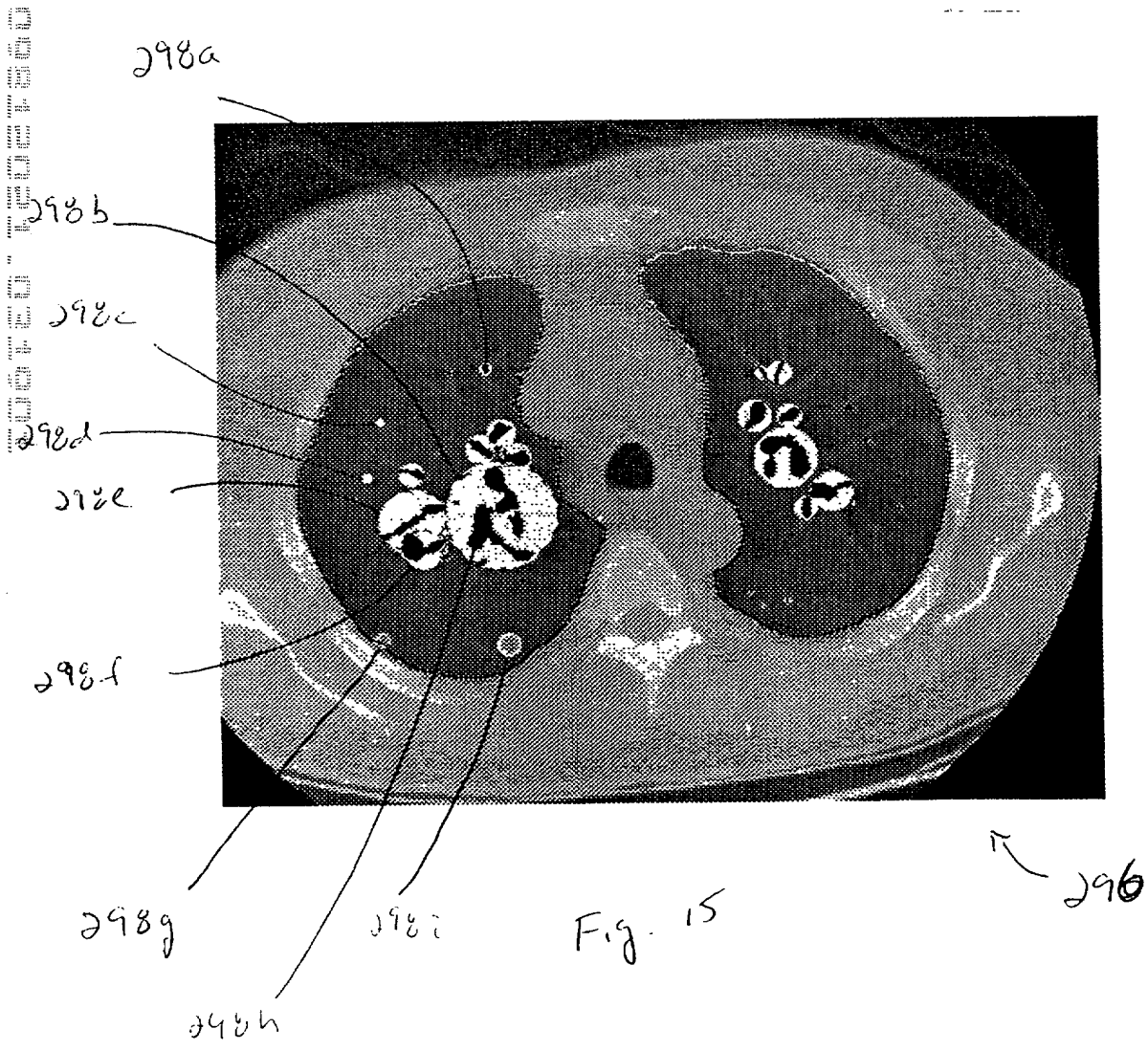
18/24



METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

19/29



METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

20/24

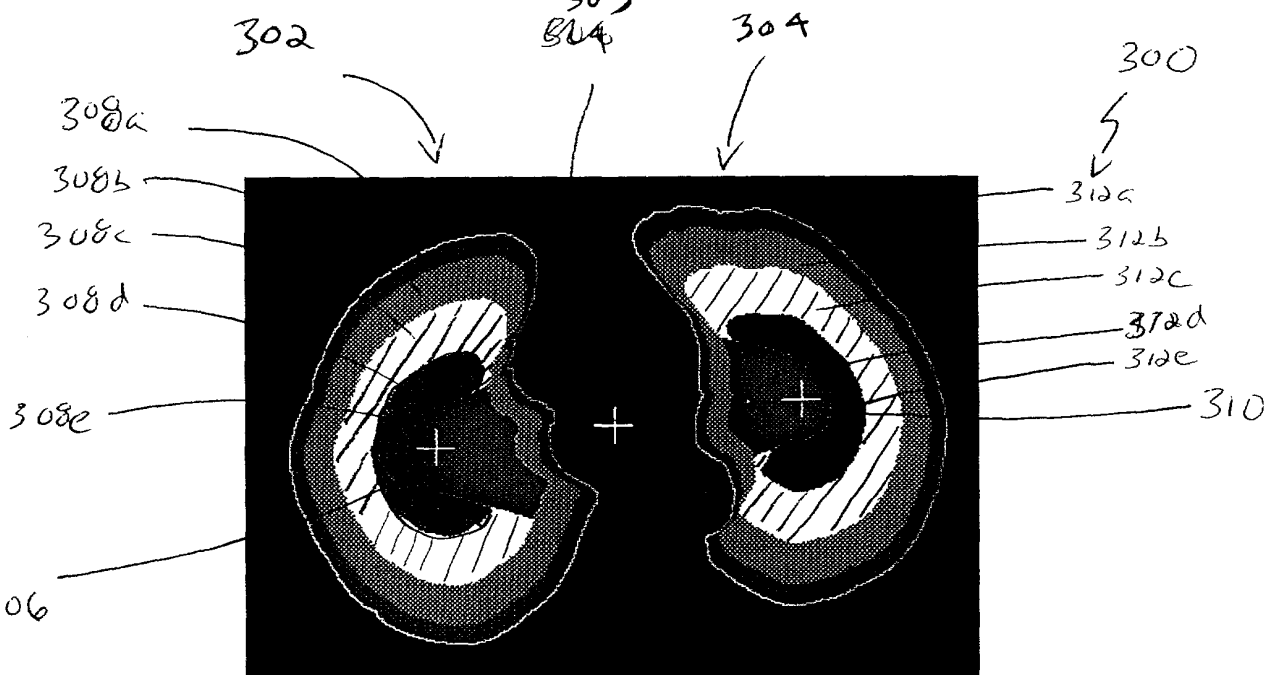


FIG. 16

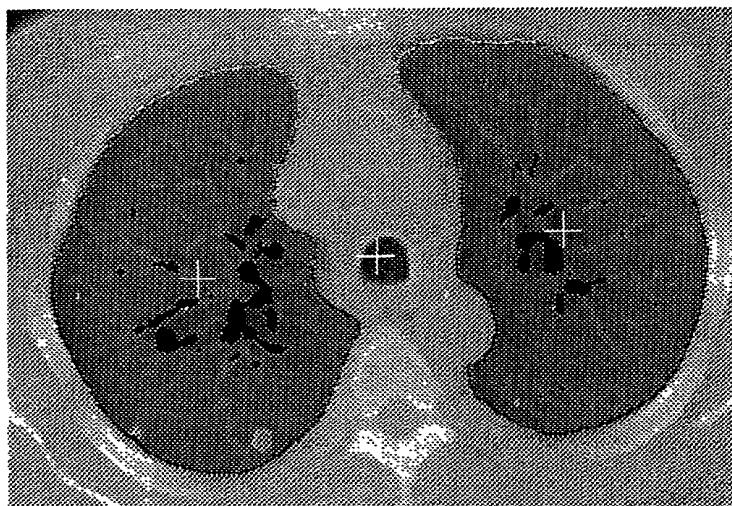


FIG. 17

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

21/24

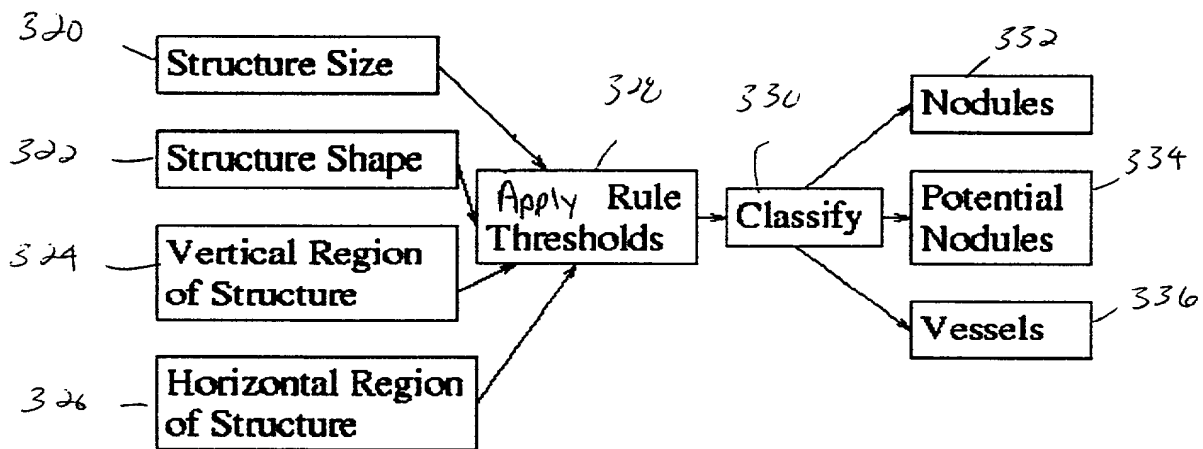


FIG. 18

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

22/24

340



Fig 19

High
Threshold

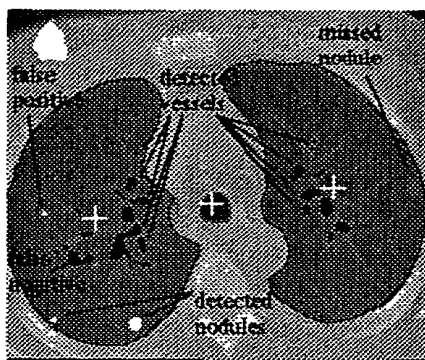


Fig. 19A

Low
Threshold



nodus
detected

341

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

23/24

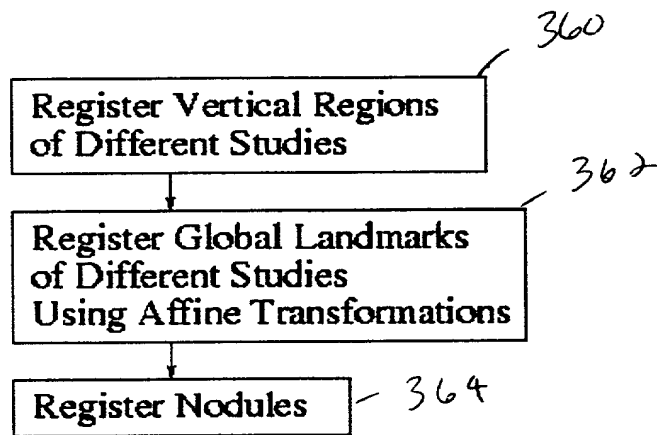


FIG. 20

METHOD AND SYSTEM FOR THE DETECTION,
COMPARISON AND VOLUMETRIC QUANTIFICATION OF PULMONARY NODULES ON
MEDICAL COMPUTED TOMOGRAPHY SCANS

Margrit Betke, et al
CASE NO. MGH-010AUS

24/24

366
⚡
↓

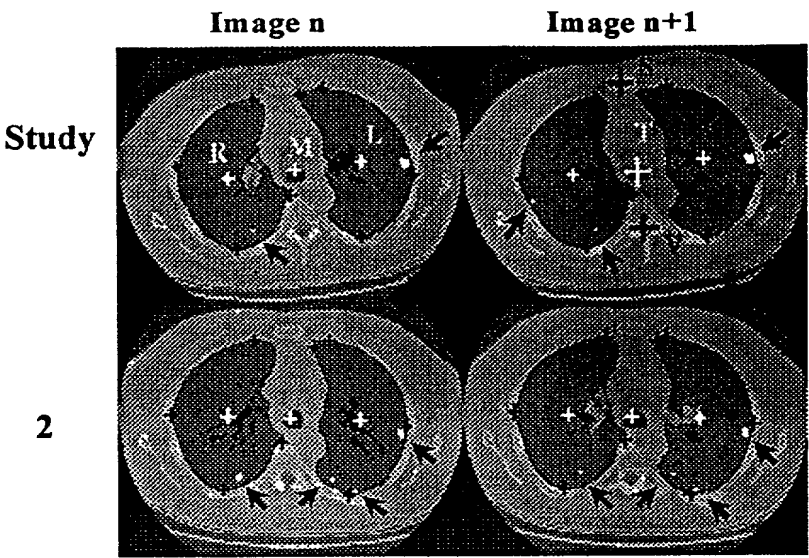


Fig. 21

2025 RELEASE UNDER E.O. 14176